

# Center for the Design of Molecular Function Biocatalysis

Linda Powers/Utah State University/Logan, Utah

Established in 1988. With funding of approximately \$1.8 M from the NIH Biomedical Research Technology Program, the Center for Biocatalysis Science and Technology has expanded to become the National Center for the Design of Molecular Function. The goals are to 1) establish the underlying bases for the design of molecular function which includes the development of real-time time-resolved spectroscopic technology; 2) apply this basic knowledge and technology to biomedical and environmental applications and monitoring; and 3) provide this information and specialized tools of its utilization to the scientific and engineering community.

Overview	Technologies	Status	Economic Impact
<p>1994-95 State Contract 0</p> <p>Matching Funds \$688,745</p> <p>Cumulative \$3,505,530</p> <p>Center Related Jobs 22</p> <p>Industry Jobs Created 6</p> <p>Benefiting Utah Companies: 0</p> <p>1994 Spin-off Companies 2</p> <p>Cum. Spin-off Companies 8</p> <p>Patents Applied 0</p> <p>Patents Issued 0</p> <p>License Agreements 1</p>	<p>•<b>Market analysis</b> has shown that although new analytical instrumentation technology has appeared, the recent market growth has been largely due to developments in automation, data analysis and handling, and combination of existing techniques.</p> <p>•<b>Instrumentation also</b> offers new technology in automation and data analysis and handling. This not only increases our possible new products but renders our spectroscopic instrumentation novel in these market aspects. No such capabilities currently exist.</p>	<p>•<b>Center currently</b> has prototypes of three new spectroscopic systems, two flow apparatuses, and parallel processing data collection and analysis device.</p> <p>•<b>A project</b> sponsored by two Utah businessmen has yielded a new environmental test and treatment technology which is currently in patent application.</p> <p>•<b>A new start-up</b> company, EnviroI, Inc. has been formed and EPA and DOE have indicated they will fund the development for contaminated soils and groundwater.</p>	<p>•<b>The development of new techniques</b> and significantly enhanced instrumentation for general analytical use has a large established market and these are designed not only to attract larger instrumentation companies to Utah, but to enhance growth of Utah-based companies.</p> <p>•<b>The development of "niche" products</b> offers a unique opportunity with little competition for start-up and smaller established Utah companies. Furthermore, these "niche" products are integral parts of the general use instrumentation and will render the start-up and smaller Utah companies as sole suppliers. The new company, EnviroI, Inc., is such an example.</p>

## **Center for Design of Molecular Function Environmental Technology**

*Linda Powers/Ron Sims/Utah State University/Logan, Utah*

*Established in July 1993 to improve economic opportunity and productivity for the state through the immediate application of environmental technologies. The work involves the application of chemistry and instrumentation to contaminated soils and ground water for characterization, monitoring and treatment.*

<u>Overview</u>	<u>Technologies</u>	<u>Status</u>	<u>Economic Impact</u>
1994-95 State Contract	0	•The Center is presently in the process of developing a field test kit for pentachlorophenol (PCP) in soil. As part of this development, the test kit is being evaluated by the U.S. EPA. In May 1994 a report was submitted to the EPA that will be used in the evaluation process.	•The impact to the Utah economy would come from the success of the small business that will market this technology, as well as from an influx of funds for additional research. The state of Utah would also benefit from the reduced costs required to characterize contaminated sites within the state. Additional money for other research would come from increased EPA involvement in the area.
Matching Funds	\$570,000		
Cumulative	\$1,157,745		
Center Related Jobs	11		
Industry Jobs Created	1		
Benefiting Utah Companies:			
1994 Spin-off Companies	0		
Cum. Spin-off Companies	0		
Patents Applied	1		
Patents Issued	0		
License Agreements	1		